DOCUMENT RESUME

ED 262 273 CE 042 710

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TITLE A Field-Study/Data-Collection Model for Developing an Education-Business Liaison Network.
PUB DATE Nov 85
NOTE 33p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Career Counseling; Comparative Analysis; Cooperative Planning; Coordination; *Data Collection; Educational Benefits; Educational Cooperation; Educational Needs; Employment Opportunities; *Field Tests; *Information Networks; Interviews; *Linking Agents; Models; Postsecondary Education; Questionnaires; Research Methodology; *School Business Relationship; Secondary Education; State Surveys; *Vocational Education
IDENTIFIERS *Wyoming

ABSTRACT

Thirteen Wyoming teachers and counselors interviewed managers in 215 businesses covering 9,515 jobs. This field study served as a basis for developing a field study-data collection model to be used in establishing an education-business liaison network. Each interviewer participating in the study was instructed to contact from 10 to 20 local companies, to administer a project-developed interview questionnaire, and to develop rapport for continuing liaison activities. Data were then subjected to a statistical analysis and compared with data collected previously in the Wyoming Business and Office Education (BOE) Steering Committee Survey. The following conclusions emerged from the study: vocational programs, and the students enrolled therein, can benefit from contacts developed with the business community inasmuch as such contacts can lead to more relevent curricula, more effective career guidance and placement services, and the provision of more resources by business; the trend toward use of sophisticated office technology is evident even in predominantly rural areas; the business community may not expect as much from schools as practitioners have been led to believe; and although the checklist method of gathering information seems to be reliable, a Delphi method of open-ended sections may enhance the development of a checklist instrument. (Appendixes include 13 tables and the interview questionnaire.) (MN)

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ED262273

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November 1985

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A FIELD-STUDY/DATA-COLLECTION MODEL FOR DEVELOPING AN EDUCATION-BUSINESS LIAISON NETWORK

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ABSTRACT

Career-advisement and curricular-appropriate data collected in the model liaison field study included job titles and work-placement opportunities and job qualifications, equipment including sophisticated office machines/systems, and common-core worker attributes. The objectives proposed from making education-business contacts, in addition to developing avenues for publicizing the benefits and needs of vocational education, included identifying classroom speakers, material and equipment resources, advisory council members, cooperative work experience stations and hands-on demonstration sites. Thirteen Wyoming teachers/instructors and counselors interviewed management personnel in 215 businesses, covering 9515 jobs (77% of which did not require a bachelor's degree). Interviewers reported a 100-percent success rate in developing liaison contacts to meet three or more of the field-study's objectives; with 77% of companies responding that "vocational education is doing a good job," compared to 9% who said, "teach basics and academics only--we'll do the training." Although 13% said that "attitudes should be taught in the home," the remainder emphasized the need for comprehensive coverage of all work-based attributes; namely, basic education, job skills, work behaviors, and personal/personality traits acceptable to and preferred by business people.

INTRODUCTION

One of the major benefits to be derived from conducting surveys of businesses located in any one school district's target market is the contacts that can be developed with company owners, managers, and employees. A viable career resource information system begins with establishing these vital and personal-contact linkages with the business community.

Opportunities resulting from education-business contacts include identifying (1) potential advisory council members, (2) classroom speakers, (3) field-trip and cooperative work experience sites; and avenues to (4) publicizing vocational programs; and (5) keep current with business and its environment, including what changes are occurring locally in office technology, systems, procedures, and emerging jobs; and the skills and attributes needed to qualify for those jobs.

The business community contributes to determining the effectiveness of vocational programs--to the extent that our graduates are hired, or not. Formally or informally, business education programs are also evaluated--by business people. The resulting "report card" business education receives from the business community may be positive or negative, depending on, among other things, the extent of liaison and rapport that business teachers establish with business people.

Statement of the Problem

Business and vocational teachers who participate in structured and supervised field experiences can develop an effective liaison network with the business community; thus obtaining data to use in program development and student advisement.

A subproblem was to compare selected factors emerging from the field study--where open-ended sections for common-core worker attributes and job qualifications were used--with the Wyoming Business & Office Education (BOE) Steering Committee Survey,[1] where like data were collected via checklist.

Need for the Study

According to House, "If the business teacher firmly believes in using the community to supplement classroom experiences, there are a number of ways in which this [liaison] can be accomplished."[2] There are also numerous excuses given for not getting involved, many of which are valid, including: busy schedules, lack of familiarity with businesses and their personnel, lack of understanding about what procedures to use to gain entrance and/or permission, and lack of knowledge about who to contact or what to do thereafter.

It is not enough for teacher educators and business-teacher authors to describe the benefits to be realized from developing liaison with the business community. We must provide instruction, motivation, and specific procedures for classroom teachers, and supervise their experiences via various means--including offering university-initiated field trips to businesses, developing internship opportunities, and supervising structured field studies to put teachers in contact with their local business and industrial community.

Since 1924, when Charters and Whitley conducted a survey that included a number of attitudes and attributes (work habits, skills, personality characteristics),[3] business teachers have been concerned about "what business wants." This identification issue is compounded by various exposés and media coverage about "what is wrong with education,"

until some teachers seem to feel that the public at large "expects schools to accomplish the impossible." Thus vocational teachers frequently ask what their role is, how much they should change, and what they should continue to teach.

Further, although we hear that "attitudes count," and that "human relations" is important, what encompasses these catch-all terms is not always delineated. Ettinger reports, for example, that in order of rank for correspondence secretarial jobs, ". . . attitude was the most important factor." Flexibility and human relations were also stressed.[4] But some descriptions often leave much to individual interpretation. When teachers have difficulty translating these broad terms, they may omit altogether the emphasizing of those attributes that occur primarily in the affective domain (or from the right-brain origin).

In an effort to upgrade knowledge of Wyoming businesses and their current practices, at least in the area of job and task competencies, a survey was conducted throughout the state by Barr and Zancanella. Using contacts made via the Wyoming Business & Office Education (BOE) Steering Committee, and with various chambers-of-commerce personnel, a comprehensive list of competencies was developed, with 139 companies responding.[5] Data provided the bases for developing "Quality Standards in Business Education" for the state of Wyoming.[6]

Since the BOE study was delimited to competencies, however, no machines and only a few attributes were reported. The check-list method of gathering data was used, as opposed to allowing respondents to make their own statements; e.g., with an open-ended categorical system. This field study, by comparison--with local teachers (and two counselors) conducting interviews--was designed to contribute to and enhance the BOE survey.

Null Hypotheses

In comparing data produced from the BOE check-list survey with data obtained from the open-ended interview format of the field study, the following null hypotheses were proposed.

There is no significant difference in data obtained from the mailed BOE survey and that obtained from the field-study interviews, on factors of:

1. basic-skill competencies required/preferred,
2. office competencies preferred,
3. worker knowledge and work attitudes required/preferred,
4. personal attributes required/preferred.

Limitations

The study was limited by the following:

1. Differences in subject-matter background and interests of the interviewers, who came from agriculture, business and distributive education, home economics, industrial education, special education, and counseling.

2. Differences in interview techniques, where some participants talked with department supervisors and employees, while others gathered data only from personnel managers/owners.

3. Differences in common-core worker attitudes, personal attributes and office job qualifications, because of the open-ended sections. as opposed to using a check-list.

Background and Procedures

Using a modified approach of CRIS (Career Resource Information System), as originally developed by Carl Poole of Portland, Oregon, for use on the computer,[7] this investigator/field supervisor applied Pool's

method to using a manual system of collecting and recording data. Concepts and procedures were taught in Principles of Business Education courses over several semesters. It seemed apparent that students--both in-service and preservice--were reluctant to make contacts on their own, without structured procedures and close supervision. Even on a limited basis, however, the results proved worthy of continuing.[8]

Field study objectives. The following guidelines were used as a bases for developing the structured interview instrument, and for providing training and follow-up sessions to participating teachers and counselors:

1. Interviewers were expected to contact 10 to 20 companies each, in their local communities, for the purpose of making observations, collecting data, and developing rapport for continuing liaison activities,

2. Interviewers were required to submit their completed interview forms (see Appendix B), together with a comprehensive report to outline plans for utilizing community resources and sharing information with vocational teachers, counselors, and administrators in the local school district, to include:

   a. identifying field-trip sites and classroom speakers,
   b. assigning students individually or in small groups to receive hands-on equipment demonstrations,
   c. arranging to use facilities/equipment in off hours,
   d. upgrading self and colleagues with information about current equipment technology, business concerns, policies, and practices,
   e. adding work stations to cooperative work experiences,
   f. identifying personnel to serve on advisory councils,

g. apprising students of job/career opportunities, and job skills required or preferred,

h. reinforcing attitudes, attributes, and traits,

i. developing potential teacher-internship sites,

j. modifying curricula towards updating and meeting the needs and practices of business; local, region, and state,

k. identifying career and industrial resource materials and/or equipment from businesses able and willing to contribute,

l. sharing with adult educators and community college program developers the interests of business people regarding re-training needs.

Data analyses. Data reported were statistically analyzed, using an SPSS program. The sub-program was a frequency distribution and was completed at the University of Wyoming Computer Center, including a determination of percentages and tallies, and in some cases of averages, rank-order and t tests.

In comparing similar data factors between the field study interviews and the Wyoming BOE Steering Committee Survey,[9] the following statistical formula was used to determine differences at the .05 level of significance:

$$Z = \frac{p1 - p2}{\sqrt{\frac{(f1 + f2)}{(n1 + n2)} \cdot \left(1 - \frac{f1 + f2}{(n1 + n2)}\right) \cdot \left(\frac{1}{n1} + \frac{1}{n2}\right)}}$$

When Z is outside 1.96, the null hypotheses of equal proportions in the two groups are rejected at the .05 level of significance.

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

The findings are supported by statistics, shown in the attached tables, as follows:

1. Wyoming participants effectively established liaison activities, evidenced by the number and range of plans impacting on programs (Table I). Resources, as listed by companies willing to provide services, were also in evidence, as were some attitudes and reactions about the effectiveness of vocational education (Tables II and III).

2. Demographic data included numbers and percentages of workers by broad classifications--office, sales, skilled, professional/managerial, and technical. Of 9,515 reported jobs, 1,288 (12.9%) were office positions. Moreover, 77 percent of jobs required less than a bachelor's degree.

3. The percentage of office jobs was determined for each industry classification, ranging from a high (66%) in a legal office to a low of 5 percent in the mining industry. Mining represented the highest number of total workers employed, with over 1,200 in one company (Tables IV, V, & VI).

4. Using recognized office clusters, job titles reported were as follows: clerical--344 (28.1%); bookkeeping/accounting clerks--329 (26.9%); general office--307 (25.1%); secretarial/word processing--204 (16.6%); and data entry--44 (3.5%). "General office" indicated, in part, that the position(s) was comprehensive in nature--"a little of everything." In other cases, the unfamiliarity of some interviewers with office positions suggested this broad category. (See Tables VII & VIII.)

5. Of 176 companies specifying office machines, 160 (91.4%) used

electric typewriters (6 used manuals, or 3.4%); and 92 percent of the companies reported having 10-key or electronic calculators. For duplicating, 8 each (4.5%) reported having spirit and mimeograph machines, with the 6 school districts predominating as users; and 61 (34.7%) companies reported having photocopiers. There were 59 (33.5%) businesses reporting computers--mainframe, mini, and microcomputers; with 21 (11.9%) firms listing dedicated word processors, plus 32 others (18%) listing microcomputers with word processing software packages--totaling 53 (30%) with WP capability. (See Table IX.)

Given that 86 businesses were small retail or service establishments, with the only office equipment reported as cash register and calculator, teacher/counselor participants expressed "surprise" (written reports and questionnaire marginal notations) that this percentage of companies are, in fact, equipped with relatively sophisticated office technology. Moreover, many of the energy-related firms (manufacturing, construction, mining, and transportation) also listed these machines and systems: facsimile, electronic mail, addressograph, microfiche, and other telecommunication devices linking machines and systems.

6. Open-ended responses on "common-core worker attitudes" produced 55 different items; and the job qualifications' section provided 12 different items under basic or general skills and 11 under office skill qualifications. (See Tables X, XI, and XII.)

Based on a prior study, where a factor analysis was conducted on similar items,[10] the following classifications emerged:

Worker productivity--habits, knowledge, attitudes,

People interaction--people skills, directed to customers,

co-workers, and owner/managers-supervisors,

Office skills and qualifications,

Personal attributes,

Basic skills

Subproblem Findings included the following, based on the null hypotheses of comparing open-ended items from the field-study interviews with like items emerging from the BOE check-list survey:

1. Since the rank order for basic skills on both studies were identical, the hypothesis of no significant difference was accepted. Both studies ranked oral communications first, followed by English (spelling, grammar, vocabulary) and writing/composition as second, with basic arithmetic/math skills in third place.

2. Partially accepted was the null hypothesis that stated there would be no significant difference in office skills between the two data-collection methods. Within this category, two items emerged as having a significant difference when proportions were statistically compared; namely, data-entry and spirit-duplicator and mimeograph skills--both studies reporting low figures. Shorthand was preferred, although not required, in nearly as many cases, for each study. But this factor did not produce a significant difference (although the data on need for shorthand indicated 44.6% on the BOE check-list study, compared to 10.2% from the interviews).

Typing ranked first in both studies, followed by filing and accuracy from the BOE study, and posting/billing/bookkeeping and filing from the field-study interviews. The ability to handle money and accurately make change ranked fifth on both studies, and duplicating (spirit/mimeograph) ranked last on both. Word processing emerged in seventh place on the BOE check-list (61.1%), and also placed seventh via the interview method. (See Table XIII.)

3. The hypothesis regarding common-core worker attitudes/human

relations was accepted because of no significant differences. Rank order differed, however. The rank order, for office workers only, placed both appearance and public manner(s) first (100%), followed by both positive self-image and cooperative/compatible (97.8% each) in second place. Third was follows instructions (97.1%); and fourth were both organized/manages time and personable (95.6%). *Fifth, in rank* order, was solves problems/makes decisions (88.4%); sixth, understands the profit motive (80.5%); and in last place was supervises/delegates effectively (66.1%).

Conversely, from the interviews regarding all workers, cooperative/compatible ranked first; with appearance, second; public manner(s), third; personable, fourth; and positive self-image, fifth. In sixth place was follows instructions; and tieing for seventh was organized/-manages time and understands profit motive. Eighth and ninth were solves problems/makes decisions and supervises/delegates.

Conclusions

Data from both the statistical analyses and the follow-up reports received from the teacher-counselor interviewers provided the bases for the following:

1. Classroom teachers, counselors, and administrators--and thus vocational programs and the students enrolled therein--can benefit from contacts developed with the business community, toward: updating knowledge and awarenesses, modifying curricula, providing effective career guidance and placement, publicizing programs, and utilizing resources available from business--whether human, equipment, facilities, or other.

2. Despite the small size of many offices in a predominantly rural state, the trend toward sophisticated office technology is in evidence;

from electronic calculators and correcting electric/electronic typewriters to microcomputers, copiers, and dedicated word processors. Further, many companies are branches, such as those represented by industries of mining, manufacturing, construction, and transportation, and as such are subsidiaries of national and international corporations, with telecommunication linkages to headquarters and branches elsewhere.

3. The business community may not expect as much from schools, specifically vocational education programs, as we might be led to believe (e.g., from the media and exposé-type articles). Business personnel recognize the difficulty of teaching attitudes, although they hope we will use various realistic means to reinforce what they believe students should have received before they reach the secondary level. They also expect to do some of their own training, providing we produce graduates with the "basics:" i.e., in math and English, but also in office skills and work procedures.

4. Although the check-list method of gathering information seems to provide a more reliable data base for summarizing, analyzing, and reporting purposes, a great deal of information that employers believe is important may be lost. Using a Delphi method of open-ended sections on such categories as attitudes, common-core attributes, and job qualifications as the first step may enhance the development of the check-list instrument.

Recommendations

1. Teacher educators must go beyond advising preservice and in-service teachers to "get involved in developing a community liaison network, and utilizing businesses as resources." Instead, we must initiate and supervise structured field experiences, develop internship opportunities, and arrange for teacher-counselor business and industrial

field trips.

2. Classroom teachers are advised to modify curricula to reflect current business practices; and, where equipment is lacking, to teach concepts, take field trips, arrange for small hands-on demonstration groups, use slides and other visuals (possibly developed from educators' contacts), and continually coordinate the use of community resources to effectively prepare their students for business and office occupations.

3. Despite the fact that at least 13 percent of company personnel "excused" education from the responsibility of "teaching attitudes," it appears increasingly evident that we should make the attempt.

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[2]F. Wayne House, "Utilizing Community Resources in Business Courses," Business Education Forum, March, 1977, pp. 8-10.

[3]W. W. Charters and Isadore B. Whitley. Analysis of Secretarial Duties and Traits. Baltimore, MD: Williams & Wilkins Company, 1924.

[4]Blanche Ettinger, "A Study of the Requirements and Business Training Procedures for Word Processing Personnel with Implications for Word Processing Curriculum Development in Two-Year Post Secondary Institutions," The Delta Pi Epsilon Journal, July, 1982, p. 103.

[5]Op. cit., Barr and Zancanella.

[6]Wyoming Quality Standards in Business & Office Education, Laramie, WY: The University of Wyoming, August, 1984. (Funded by a grant from the Wyoming State Department of Education-Vocational Unit, Cheyenne; and developed by business teachers enrolled in university workshops over five summers.)

[7]Carl N. Poole, Career Resource Information System: Data Bank/Clearing House. Portland, OR: Community Resources for Career Education, 1977.

[8]Olive Church, "Get Involved! Identify Your Community Resources," Business Education World, May-June, 1982, pp. 18-19.

[9]Op.cit., Barr and Zancanella.

[10]Olive Church, "The Influence of Selected Educational Experiences on Perceptions of Office Environment," unpublished Ph.D. dissertation, Grand Forks, ND: The University of North Dakota, 1973 (Dr. John L. Rowe, Committee Chair).

APPENDIX A

TABLES I - XIII

Table I

LIAISON ACTIVITIES AND BENEFITS REPORTED BY INTERVIEWERS AS A RESULT OF LOCAL FIELD CONTACTS

Item	Rank	Number	Percent
Sharing data with colleagues & students	1	13	100
Cooperative efforts planned	1	13	100
Common-core worker attributes; will share with students; reinforce teaching	1	13	100
Equipment and machines data; updating self; share knowledge with students	2	12	92
Public relations opportunities	2	12	92
Field trips arranged for school year	3	11	85
Speakers arranged for school year	3	11	85
Job opportunities; use in career advisement	4	10	77
Basic skills, reinforce in teaching/advice	5	7	54
New work stations obtained for cooperative work experience programs	6	6	46
Curricular modifications	7	5	39
Internships/in-service; for teachers at work place; and adult-education for business people (community colleges)	8	4	31
New advisory council members obtained	8	4	31
On-job-training for student workers arranged in cooperation with firms	9	2	15

n = 13 (11 classroom teachers, 2 counselors; 4 of the teachers were responsible for cooperative work experience and advisory councils. Two interviewers were employed in community colleges--1 teacher and 1 counselor.)

TABLE II

RESOURCES AVAILABLE, AS REPORTED BY COMPANIES

Resources	Number	Percent
Companies willing to provide field trips	115	78.4
Company personnel to serve as speakers	73	49.7
Summer internships for teachers	72	48.9
Facilities available, off-hours/other	49	33.3
Other (equipment, materials, etc.)	33	22.0

n = 147 (companies responded to this item)

TABLE II

ATTITUDES ABOUT VOCATIONAL EDUCATION

Comment	Number	Percent
"Vocational Education is doing a good job"	137	77.3
"Vocational Education is a waste of time . . . teach the basics first, and academics . . . ." also "We'll do the training."	16	9.1
"Attitudes and personality characteristics cannot be taught in school . . . reinforced, maybe . . . should be taught elsewhere--in the home, at church. Not the responsibility of education"	23	13.1

n = 176 (companies responded to this item)

TABLE IV

DISTRIBUTION OF JOBS BY BUSINESS CLASSIFICATION
IN FIFTEEN WYOMING COMMUNITIES

Business Classification	Number	Percent
Office	1,228	12.9
Sales	654	6.9
Skilled	4,500	47.3
Professional/Manager	2,160*	22.7
Technical	973	10.2
Total	9,515	100.0

N = 215 Companies

(15 towns and 13 interviewers)

*Large number is accounted for, in part, because eight school districts and two hospitals were surveyed, including professional teachers, nurses and doctors. Nevertheless, 77.3 percent of positions surveyed require less than a bachelor's degree.

TABLE V

SIZE OF COMPANIES BY TOTAL EMPLOYEES
AND STANDARD INDUSTRIAL CLASSIFICATION

Classification	Number of Companies (Rank Order)	Number of Total Employees	Range	Average Size
Retail	58	1,034	1-73	18
Service	28	273	2-13	10
Government	21	1,107	4-103	53
Construction	18	291	3-84	16
Finance	16	179	1-22	11
Manufacturing	14	798	8-125	57
Agri-Business	14	193	12-32	14
Transportation	9	206	9-56	23
Communication & Media	8	149	8-44	19
Utilities	8	366	13-76	46
Mining	6	3,220	17-1372	537
Education	6	1,546	54-71	258
Hospitality & Recreation	4	85	16-36	21
Medical	4	65	6-129	16
Legal	1	3		3
Totals	215	9,515		

TABLE VI

OPPORTUNITIES FOR OFFICE EMPLOYMENT
(Percent of Total Employees, by Industry)

Industry Classification	Number Surveyed	Total Number of Employees	Office No.	Employees Percent (Rank Order)
Law Office	1	3	2	66.0
Finance (Banks, R.E., Ins.)	16	179	81	45.3
Utilities	8	366	137	37.4
Medical (Hospitals, Prof. Offices)	4	65	19	29.2
Government (Local, City, State, Federal)	21	1,107	297	26.8
Agri-Business	14	193	18	16.9
Retail Store	58	1,034	146	14.0
Construction	18	291	39	13.4
Hospitality/Rec.	4	85	11	12.9
Communication & Media (Radio, TV, Newspapers)	8	149	19	12.8
Transportation	9	206	24	11.7
Service Shops	28	273	31	11.0
Education	6	1,546	166	10.7
Manufacturing	14	798	75	9.4
Mining	6	3,220	163	5.1
Totals	215	9,515	1,228	

TABLE VII

JOB TITLES AND NUMBER OF TIMES REPORTED

Job Title	Number of Times Reported	Percent
General Office	218	23.7
Bookkeeper	123	13.4
Secretary	101	10.9
Accounting Clerk	96	10.4
Cashier	64	6.9
Teller	46	5.0
Office Manager	46	5.0
Data Entry	44	4.8
Clerk-Typist	43	4.7
Receptionist	42	4.6
Typist	41	4.5
Word Processor	36	3.9
Transcriber	21	2.3
Unnamed	(307)	
Total Employees reported by job title	921	

n (of Cos) = 93 22 Companies reported "no office jobs" (e.g., small retail or service establishments where the entrepreneur handled records, purchasing, billing, etc. and used outside services for accounting, computer operations, or word processing.)

TABLE VIII

JOB TITLES BY FOUR CLUSTERS, FIELD STUDY COMPARED WITH WYOMING STEERING COMMITTEE SURVEY

	Field Study		Steering Committee	
	No.	Percent	No.	Percent
General Office: (218) Clerk Typist (43) Receptionist (42) Typist (41)	344	28.0	27	19.5
Bookkeeping/Accounting: Bookkeeper (123) Accounting Clerk (96) Cashier (64) Teller (46)	329	26.8	29	20.8
Specialized Office Occupations: Secretary (101) Office Manager (46) Word Processor (36) Transcriber (21)	204	16.6	18	12.9
Computer/Data-Entry: Data Entry (44)	44	3.5	12	8.6
Unspecified (General/sec):	307	25.1	53	38.2
Totals	1,228	100.0	139	100.0

TABLE IX

OFFICE EQUIPMENT REPORTED BY 176 WYOMING COMPANIES

Item	Number	Percent
Typewriters:		
Electric/electronic	160	91.4
Manual	6	3.4
Calculators:		
(10-key or electronic)	162	92.0
Duplicating:		
Copiers	61	34.7
Spirit	8	4.5
Mimeograph	8	4.5
Computers:		
(microcomputers, mini or mainline)	59	33.5
Word Processors:	53	30.0
Dedicated (21/11.9%)		
Micros w/software (32/18%)		
Cash Registers	82	46.6
Transcribing Machines	20	11.4
Other: posting, billing, facsimile microfiche, addressograph, EMail, postage, telecommunications	28	15.9

N = 176 Companies

NOTE: Incomplete and unreliable data for remaining 49 companies, due to limited office background of some interviewers (i.e., agriculture, home economics, counselors, industrial education, etc.). Some responses under Office Equipment included such things as "typical to operations," or "latest office technology."

TABLE X

WORK SKILLS STATED AS QUALIFICATIONS
(Required and/or Preferred)

Item	Rank Order	Percent of Companies Responding, per Item
General:		
Oral Communication	1	42.0
Math (Basic)	2	26.5
Handle Money, Make Change	3	22.3
English (Spelling, Vocabulary, Grammar and writing)	4	19.0
Accuracy	5	16.7
Sales Techniques	6	7.9
Reading	7	5.1
Penmanship	8	3.2
Memory	9	2.3
Speed	9	2.3
Specific to Office Work:		
Typing (Range 40-60 wpm)	1	83.4
Bookkeeping/Recordkeeping	2	67.8
General Office Procedures	3	46.1
Telephone Usage	4	41.9
Filing	5	40.9
Computer/Data-Entry	6	27.4
Word Processing	7	13.0
Transcription	8	10.3
Shorthand	9	9.3
Office Management	10	7.7

N = 193 (22 of the 215 companies did not report having "office" workers; e.g., functions performed by entrepreneurs in small retail/service establishments.)

TABLE XI

WORK BEHAVIORS AND ATTITUDES
(Required and/or Preferred)

Work Habits and Knowledge	Rank Order
Work Habits (Good)	1
Productivity	2
Product-Company Knowledge	3
Initiative, Conscientious	4
Work Without Supervision	5
Follow Through on Instructions	6
Organized, Efficient, Manage Time	7
Understand Profit Motive	7
Work Under Pressure	8
Work Attributes	
Dependable, Responsible	1
Honest	2
Punctual, Good Attendance	3
Loyal	4
Flexible	5
Confidential	6
Serious, Businesslike	7
Personal Attributes	
Appearance (Clean, Neat, Appropriate)	1
Trainable (Willing to Learn)	2
Personable ("Good" Personality, Likeable)	3
Motivated (Self-Actualized)	4
Pride (In Own Quality Work)	5
Self-Image (Positive; Self-Esteem)	6
Intelligent (Common Sense, Practical, Uses Own Mind)	7
Ambitious (Interested in Self-Development, Advancement)	8
Positive Attitude (Toward Self, Others, Work, General Outlook)	8
Decisive (Solve Problems, Etc.)	9
Creative	10
Sincere	11
Sense of Humor	12

TABLE XII

PEOPLE INTERACTION ATTRIBUTES
(Required and/or Preferred)

	Rank Order
Responsibility to Customers, Clients	
Public Manner	1
Respect for, Courteous	2
Patience, Understanding, Compassion	3
Tact, Diplomacy	4
Friendly, Helpful	5
Responsibility to Owners-Managers	
Work Unsupervised	1
Make Suggestions, Solve Problems (Practical, Decisive, Intelligent, Use Common Sense)	2
Ask Questions When Needed	3
Respect Authority	4
Accept Criticism	5
Responsibility to Co-Workers	
Cooperative, Team Efforts	1
Compatible, Get Along	2
Respect for Each Other (Don't Infringe on time, equipment, personal needs)	3

TABLE XIII

JOB COMPETENCIES:
A COMPARISON OF THE OPEN-ENDED FIELD INTERVIEWS
WITH RESPONSES FROM THE WYOMING CHECK-LIST SURVEY

	WY Check-List Survey Rank	#	%	Field Interviews Rank	#	%	Z
Basic Skills							
Oral Communications	1	137	98.5	(1)	91	51.7	12.02
English	2	133	95.6	(2)	41	23.3	16.67
Writing/Composition	2	133	95.6	(2)	41	23.3	16.67
Math	3	120	86.3	(3)	57	32.4	12.46
		523			230		
Human Relations, Attitudes, Habits							
Appearance	1	139	100	(2)	114	64.8	10.19
Public Manner(s)	1	139	100	(3)	92	52.3	12.37
Positive Self-Image	2	136	97.8	(5)	72	40.9	13.79
Cooperative/Compatible	2	136	97.8	(1)	129	73.3	7.69
Follow Instructions	3	135	97.1	(5)	43	24.4	16.83
Organized, Manage Time	4	133	95.6	(7)	39	22.2	37.13
Personable	4	133	95.6	(4)	77	43.8	12.64
Solve Problems/Make Decisions	5	123	88.4	(8)	36	20.5	25.48
Understands Profit	6	112	80.5	(7)	39	22.2	13.40
Supervise, Delegate	7	92	66.1	(9)	15	8.5	13.94
		1,278			656		
Office Skills							
Typing	1	139	100	(1)	161	91.5	4.626
Filing	2	139	100	(3)	79	44.9	13.25
Accuracy	3	125	89.2	(8)	17	9.6	18.29
Posting/Billing	4	107	76.9	(2)	131	74.2	17.8
Handle Money	5	97	69.7	(5)	48	27.1	9.07
Data Entry	6	91	65.4	(4)	53	30.1	.85*
Word Processing	7	85	61.1	(6)	27	15.3	14.30
Shorthand	8	62	44.6	(7)	18	10.2	28.64
Duplicating-Spirit/Mimeo	9	16	38	(9)	16	9.1	.92*
		860			567		
		N = 139			N = 176		

*Significant difference at the .05 level.

INTERVIEW QUESTIONNAIRE

COMPANY:_____ DATE:_____

ADDRESS:_____ TELEPHONE NO.:_____

_____ CONTACT TIMES:_____

TYPE OF BUSINESS/INDUSTRY:_____

BRANCH___HEADQUARTERS___ONLY LOCATION___PRIVATE___PUBLIC___OTHER____

PRODUCTS OR SERVICES:_____

_____

CONTACT PERSONNEL:

NAME	JOB TITLE	DEPARTMENT
_____	_____	_____
_____	_____	_____
_____	_____	_____

NO. OF EMPLOYEES, BY JOB CLASSIFICATION:

OFFICE_____ SALES_____ SKILLED_____ PROFESSIONAL/MANAGERIAL_____

TECHNICAL_____ OTHER_____ TOTAL EMPLOYEES AT THIS ESTABLISHMENT_____

COMMENTS:_____

WHAT SOURCES DO YOU USE TO RECRUIT WORKERS?

WANT-ADS_____ JOB SERVICE_____ WORD-OF-MOUTH_____ OTHER_____

COMMENTS:_____

_____

INDUSTRY-EDUCATION LIAISON ACTIVITIES

What departments may Vocational Education students tour?_____

_____

What company personnel are available as class speakers? on what topics?

_____

Do you have free materials to distribute to students? If so, what? and how could these be obtained?_____

_____

SERVICES PROVIDED via EDUCATION-INDUSTRY LIAISON

How can a liaison between education (vocational) and industry benefit Wyoming companies?

EXAMPLES: (check one or more desirable services)

COMPANY PERSONNEL IN-SERVICE PROGRAM_____

HIGH SCHOOL TEACHERS WORK FOR SHORT PERIODS AS INTERNS_____
(Acquaint teachers with business & industry in Wyoming for infusion in classes)

COMPANY PERSONNEL TOUR/SPEAK IN VOCATIONAL EDUCATION PROGRAMS_____

JOB QUALIFICATIONS & EQUIPMENT MADE KNOWN TO WY VOCATIONAL STUDENTS_____

WY COMPANIES MAKE FACILITIES AVAILABLE TO VOCATIONAL TRAINING PROGRAMS_____

WY COMPANIES CONTRIBUTE EQUIPMENT TO VOCATIONAL PROGRAMS_____

OTHER:_____

_____

_____

COMMENTS (including needs of Wyoming companies that Vocational Education might address; this includes service activities from University of Wyoming personnel engaged in training teachers in Vocational Education)

_____

_____

_____ _____
Interviewer Date

WORKER QUALIFICATIONS & EQUIPMENT USED

OFFICE PERSONNEL

JOB TITLE	QUALIFICATIONS	EQUIPMENT USED

TECHNICAL WORKERS

JOB TITLE	QUALIFICATIONS	EQUIPMENT USED

SALES PERSONNEL

JOB TITLE	QUALIFICATIONS	EQUIPMENT USED

SKILLED WORKERS

JOB TITLE	QUALIFICATIONS	EQUIPMENT USED

COMMON -CORE WORKER ATTITUDES PREFERRED

What qualities & attitudes are preferred of all workers? Should these be taught in Vocational Education programs in high schools and post-secondary institutions?